

**WHAT IS CLAIMED IS:**

1. An image sensor comprising:
  - (a) a substrate having photosensitive areas;
  - (b) an insulator spanning the substrate; and
  - (c) a first and second layer of a multi-layer metalization structure wherein the first layer forms light shield regions over select portions of the photosensitive area as well as forming circuit interconnections and barrier regions to prevent spiking into the substrate or gates at contacts in the non-imaging area, and the second layer spanning the interconnections and barrier regions of the first layer only over the non-imaging area.
2. A method for forming an image sensor comprising the steps of:
  - (a) providing a substrate having a plurality of photosensitive areas;
  - (b) providing an insulator spanning the substrate;
  - (c) providing a multi-layer metalization structure having at least first and second layers that spans the insulator;
  - (d) etching away the second layer of multi-layer metalization structure spanning the photosensitive areas with a first etchant that selectively etches the second layer but not the first layer;
  - (e) depositing and patterning, in a shape that defines the to-be-formed apertures, a masking layer spanning the first layer; and
  - (f) etching through the first layer with a second etchant that etches the first layer but not the insulator or second layer materials for forming the apertures.
3. The method as in claim 2, wherein the second layer is aluminum or an alloy of aluminum and silicon and the first etchant is of a chlorine-based composition.

4. The method as in claim 2, wherein the first metal layer is an alloy of titanium and tungsten and the second etchant is of a fluorine-based composition.